

REMARKS

Claims 1-20 are pending in the above-identified application. Claims 10-17 and 20 are allowed, Claims 1-6, 8, 9, 18 and 19 are rejected, and Claim 7 is objected to as being dependent from a rejected base claim, but is otherwise indicated as being allowable.

In the current paper, Claim 7 is amended and Claims 18 and 19 are canceled. Reconsideration and withdrawal of the pending rejection is respectfully requested.

Rejections Under 35 USC 103

Claims 1-5 and 8 are rejected under 35 U.S.C. 103 as being unpatentable over Bouveau and either Sassin or Ida and either Chomic '278 or Stasiuk.

Claim 1 recites:

A flow control element for controlling the flow of a liquid, the flow control element comprising:

a tube-like wall section having a first end and a second end, the wall section defining a liquid flow channel extending from the first end to the second end of the wall section; and

a substantially flat membrane connected to the wall section such that the membrane is disposed between the liquid flow channel and an external region located outside of the flow control element,

wherein the membrane defines a plurality of pinholes that are formed such that when the membrane is subjected to normal atmospheric conditions and the membrane remains undeformed, the plurality of pinholes remain closed to prevent liquid flow between the liquid flow channel and the external region through the membrane, and when the membrane is deformed in response to an applied pressure differential between the liquid flow channel and the external region, the plurality of pinholes open to facilitate liquid flow through the membrane.

As set forth in Applicant's specification, the term "pinhole" has

a specific meaning that, in combination with the "substantially flat membrane" in which the pinholes are formed, provides a structure that is distinguished over the cited prior art. In particular, the term "pinhole" refers to an opening that is formed by piercing the membrane using a pin or other sharp pointed object (see, for example, paragraph 0012):

According to another embodiment of the present invention, a flow control element including the wall section and elastic membrane described above is produced by stretching the elastic membrane in a radial direction, piercing the membrane using a pin, and then releasing the membrane such that the thus-produced pinhole closes. In one embodiment, stretching is performed inserting a base structure or other fixture into the wall section such that the wall section is pushed radially outward, thereby stretching the membrane. In another embodiment, two pins having different diameters are used to form the pinholes.

By forming a pattern of such "pinholes" in a "substantially flat membrane", the present inventor has created a novel nipple that is truly leak-proof, and in addition produces a flow rate that varies in response to the suckling strength of a child. That is, the membrane and pinholes combine to emulate a natural breast-feeding process in which the pinholes remain closed (i.e., do not spill or seep) until a child begins to suckle. As the child suckles, the membrane stretches and the pinholes open to facilitate the flow of liquid at a rate controlled by the applied suction. Specifically, small infants applying relatively weak suction produce a relatively small amount of stretching/opening, thus producing a relatively small flow, thus reducing the chance of choking. Larger children apply a relatively strong suction, thus producing greater stretching/opening and greater fluid flow. The nipple is therefore suited for children of any age, and permit a single, leak-proof nipple to be used throughout a child's development.

Applicant contends that it would not have been obvious to combine the cited references to produce the "flow control element comprising...a substantially flat membrane...[defining] a plurality of pinholes" as recited in Claim 1 for at least the reasons set forth in the appended Declarations under Rule 132 that are submitted by Bill Hudson, Bengt Lager, and Jeff Durkee (these documents are copies of, and therefore substantially identical to, associated declarations filed in copending Application No. 10/351,137; Applicant has changed the heading and serial number for identification purposes). Applicant believes long felt need for a non-drip nipple having the flow characteristics of a natural breast-feeding process is established by the statements of Bill Hudson. Applicant also believes all three Declarations establish that the flow control element (e.g., nipple) associated with Claim 1 (referred to in the Declarations by its commercial product name "Second Nature nipple") meets this long felt need. Applicants further believe that commercial success is established by (a) the statements in the Declaration of Bengt Lager associated with the business partnership established with the current assignee that is directly related to the claimed nipple, and (b) by the sales figures and industry feedback set forth in the Declarations of Bengt Lager and Jeff Durkee. For at least these reasons, Applicant respectfully requests that the rejection directed to Claim 1 be reconsidered and withdrawn.

Claims 2-5 and 8 are dependent from Claim 1, and are distinguished over the cited prior art for at least the reasons provided above with respect to Claim 1.

Rejection of Claims 6 and 9

Claims 6 and 9 are are rejected under 35 U.S.C. 103 as being unpatentable over Bouveau and either Sassin or Ida and either Chomic '278 or Stasiuk.

Claims 6 and 9 are dependent from Claim 1, and are therefore distinguished over Bouveau, Sassin and Ida for at least the reasons set forth above with reference to Claim 1.

Freeman teaches a beverage container 11 having a cap (closure) 10 including a spout 12, and a thin membrane 13 mounted attached to spout 12. The membrane 13 includes a slit 14 to that opens during use to facilitate fluid flow:

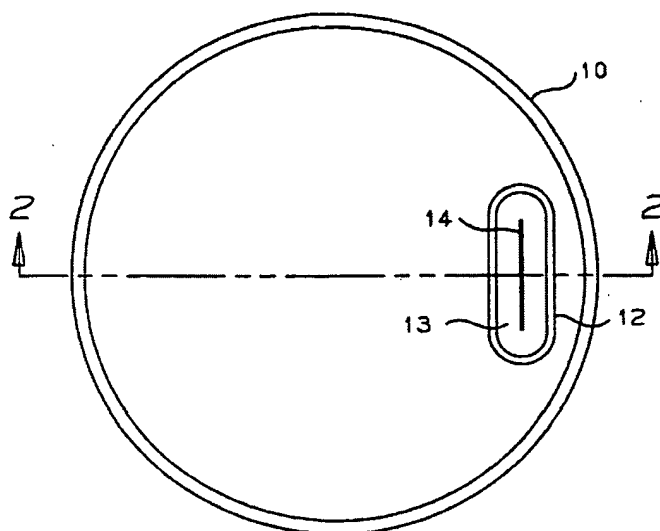


Figure 1

Freeman clearly teaches (see Col. 2, lines 48-52, reproduced below for reference) that the slit 14 is formed either by molding the slit into the membrane, or cutting the membrane using a sharp edged object:

2

After the closure 10 is manufactured to the form shown in FIG. 4, the thin membrane 13 is assembled or
50 insert molded into the spout 12. The slit 14 is either molded into the thin membrane 13 or is formed with a sharp edge after the thin membrane 13 is produced.

Freeman also teaches an alternative embodiment (see Freeman's Fig. 6 and associated text from Freeman's Col. 2, which are reproduced below for reference) that utilizes a line of puncture holes 16 to form an elongated slit-like opening in the membrane 13 that operates in a manner similar to the slit 14 used in the other embodiments disclosed by Freeman:

2

40 Another alternative for similar purposes is specifically shown in FIG. 6 wherein the thin membrane 13 does not contain slit 14, but rather a plurality of punctured holes 16. In all other respects the closure 10 functions as disclosed in FIGS. 1 through 5 and in the written description pertaining thereto.
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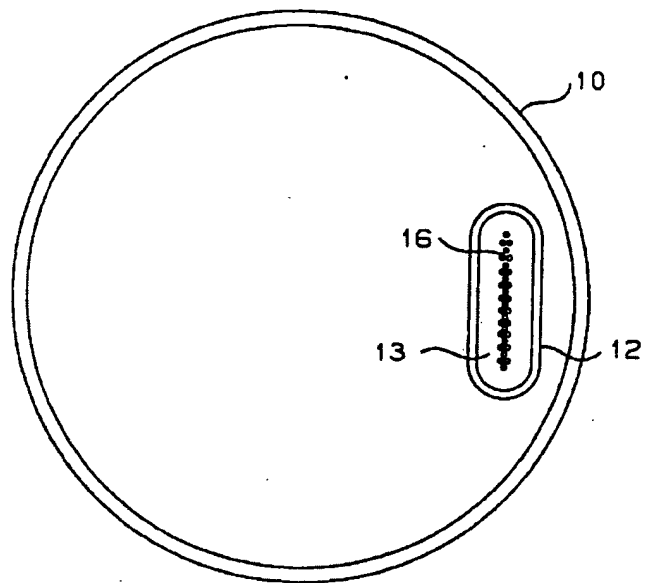


Figure 6

Those skilled in the art will recognize from the above disclosure that Fig. 6 shows a membrane having a slit-like opening formed by an alternative production method (i.e., different from the molding or cutting method used to form slit 14). That is, by forming a line of closely-spaced puncture holes 16 in the thin membrane 13, the material located between the adjacent puncture holes 16 tears or splits, thereby forming a fissure that extends along the entire line of holes 16. Alternatively, even if this fissure is not immediately created during the puncturing process, the fissure would be created the first time the cup was used (i.e., the applied pressure would cause the relatively weak sections between the puncture holes to fail). In either case, the purpose of the Freeman's puncture holes 16 is not to pass fluid, but to form the elongated opening (fissure) that is clearly shown in Freeman's Fig. 6. Those skilled in the art will

recognize that the purpose for forming the fissure using Freeman's puncture holes 16 (as opposed to forming a slit by molding/cutting the membrane) is that the two sides of the split/torn portion of membrane material forms a tighter, more reliable seal than molded/cut slits.

Accordingly, it would not have been obvious to combine the teachings of Freeman with the teachings of Bouveau, Sassin and/or Ida and either Chomic '278 or Stasiuk to produce the structure recited in Claim 1 because none of these references teach or suggest "a substantially flat membrane...defines a plurality of pinholes", as recited in Claim 1. Claims 6 and 9 are dependent from Claim 1, and are therefore distinguished over Bouveau, Sassin and/or Ida, Chomic '278 or Stasiuk, and Freeman for at least the reasons set forth above with reference to Claim 1.

For at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 USC 103.

Rejection of Claims 1 and 8

Claims 1 and 8 are provisionally rejected under "obviousness-type double patenting" as being unpatentable over Claim 1 of copending US Application No. 10/351,137 in view of Bouveau.

Applicant contends that Bouveau is distinguished over the structure recited in Claim 1 for at least the reasons set forth in the appended Declarations under Rule 132 that are submitted by Bill Hudson, Bengt Lager, and Jeff Durkee (discussed above). As such, Applicant believes the pending provisional rejection is improper and should be withdrawn. Claim 8 is dependent from Claim 1, and is therefore distinguished for at least the reasons set forth above with reference to Claim 1.

Rejection of Claims 18 and 19

Claims 18 and 19 are provisionally rejected under

"obviousness-type double patenting" as being unpatentable over copending application 10/339,861 in view of Chomik.

Claims 18 and 19 are canceled, thereby obviating the rejections directed to these claims.

Allowable Subject Matter

Claim 7 is objected to as being dependent on a rejected base claim, but is otherwise indicated as being allowable. Claim 7 is amended herein to incorporate the subject matter of Claim 1, thereby obviating the pending rejection. No new matter is added. Reconsideration and withdrawal of the pending objection is respectfully requested.

Claims 10-17 and 20 are indicated as being in condition for allowance.

CONCLUSION

Claims 1-17 and 20 are pending in the present Application. Reconsideration and allowance of these claims is respectfully requested. If there are any questions, please telephone the undersigned at (408) 451-5902 to expedite prosecution of this case.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as FIRST CLASS MAIL in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 3, 2005

6/3/05 Carrie Reddick
Date Signature: Carrie Reddick